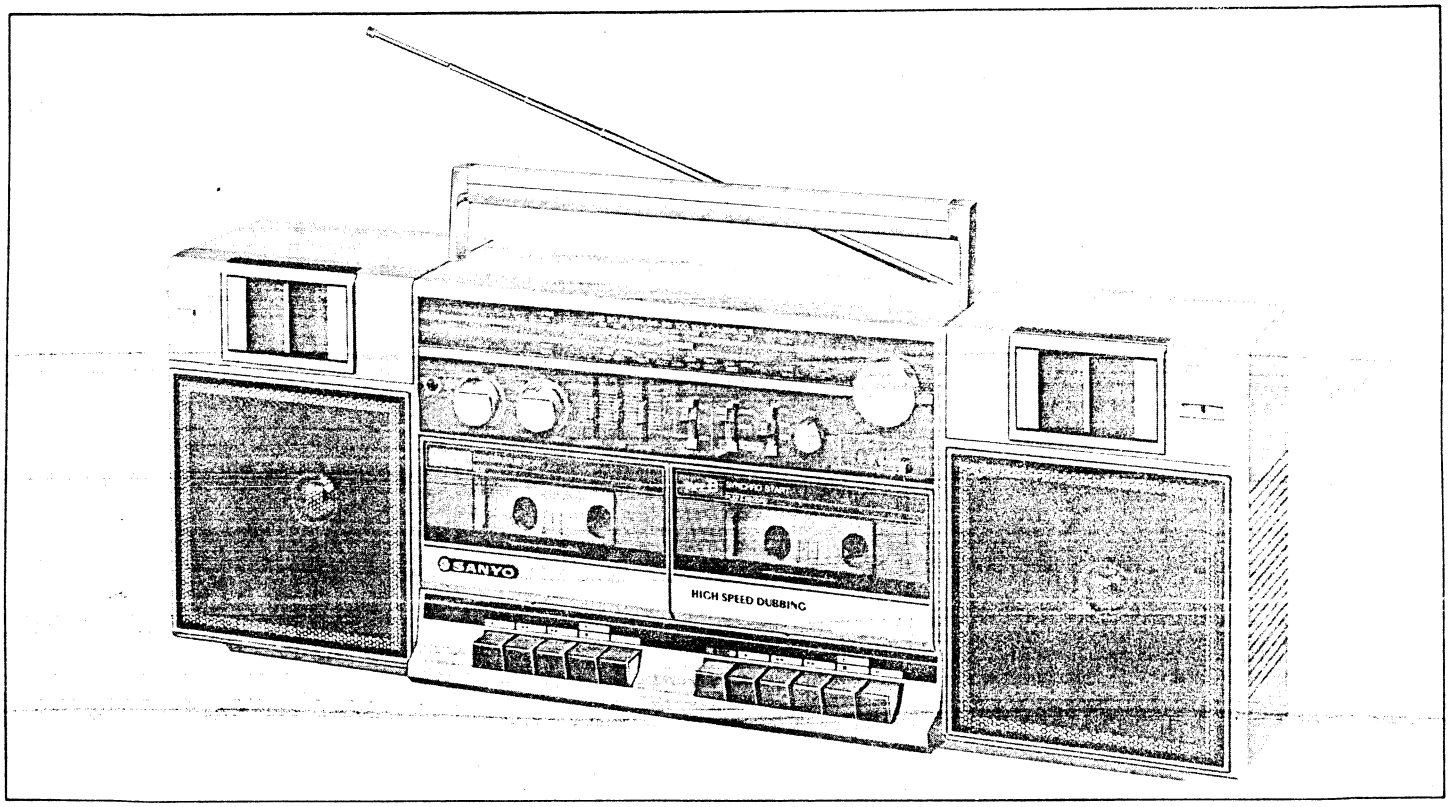
SERVICE MANUAL

CASSETTE RECORDER

SANYO

M W220L

(EUROPE)



SPECIFICATIONS

Recording system	AC bias, 4-track stereo
Erasing system	AC erase, 2-track
Tape speed	4.75 cm/sec. (1-7/8 i.p.s.)
Fast forward and Rewind time	2 min. (C-60)
Frequency range	LW: 150 – 280 kHz
	MW: 525 – 1,605 kHz
	SW: 5.95 – 18 MHz
	FM: 87.5 – 108 MHz
Terminal impedance	MIC: 600 ohms
	PHONES: 32 ohms
Frequency response	63 – 14,000 Hz
Output power	3.5 W x 2 (maximam)
Power source	DC: 9 V, "R20" type x 6
	AC: 115/230 V
	50/60 Hz
Dimensions	596 (W) x 220 (H) x 134 (D) mm
Weight	Approx. 4.5 kg including batteries

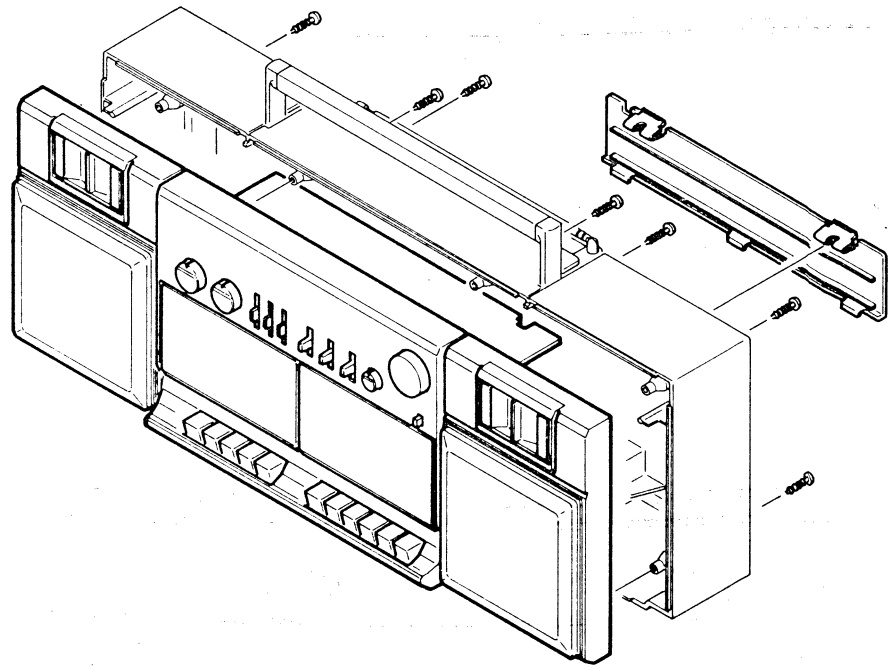
– Specifications subject to change without notice.

*This recorder incorporates two mechanisms.
The left side mechanism for play is referred to as TAPE A, and the right side mechanism for record/play is called TAPE B in this manual.

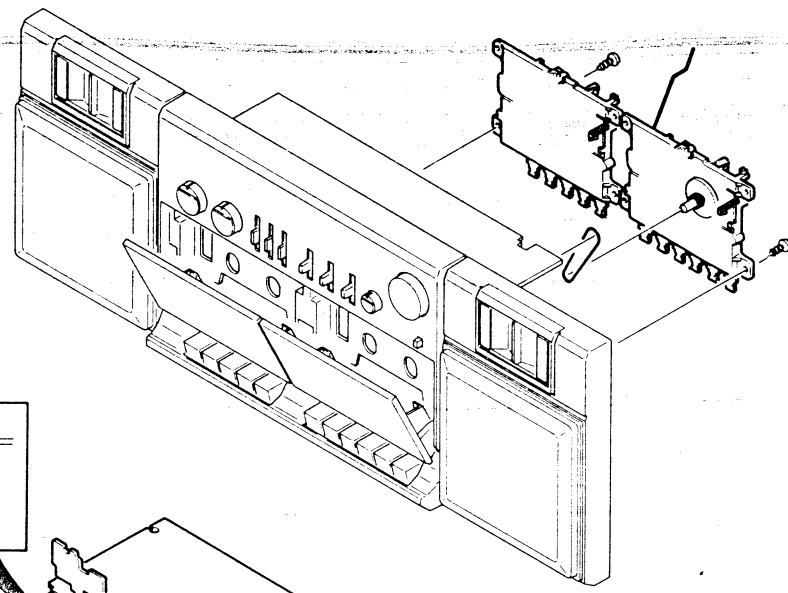
WM-15939

DISASSEMBLING

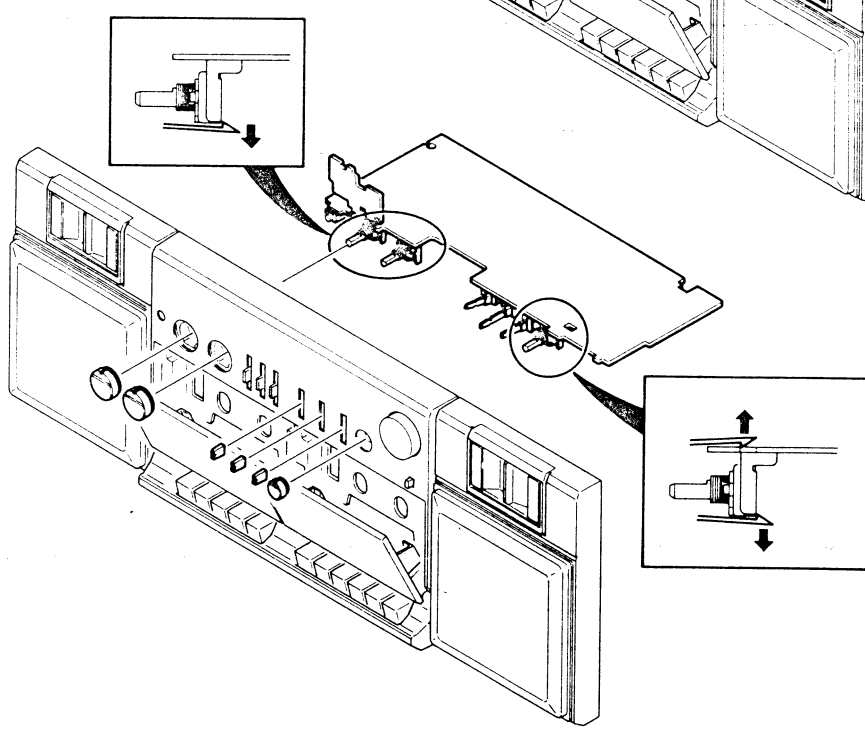
REMOVAL OF CABINET



REMOVAL OF MECHANISM



REMOVAL OF P.C. BOARD



PRODUCTION CHANGE NOTICE

SANYO

Date: July, 31, 1986

Please add this notice to the Service Manuals listed below.

CASSETTE RECORDER

MW220L

(EUROPE)

REF:WM-15939

Issue Number 1

The following items were misprinted. Please make the necessary revisions as indicated in the Service Manuals listed above.

No.	Page or Section		Key. No.	Part No.	Description	Q'ty	Remarks
1	MECHANISMS	From	103	141-2-856T-59500	Spring Coil, Supply Reel Plate	2	
		To	103	141-2-856T-14400	Spring Coil, Supply Reel Plate	2	
2	MECHANISMS	From	152	141-2-732T-10302	Slide, Head	2	
		To	152	141-2-732T-10330 or 141-2-732T-10333	Slide, Head	2	

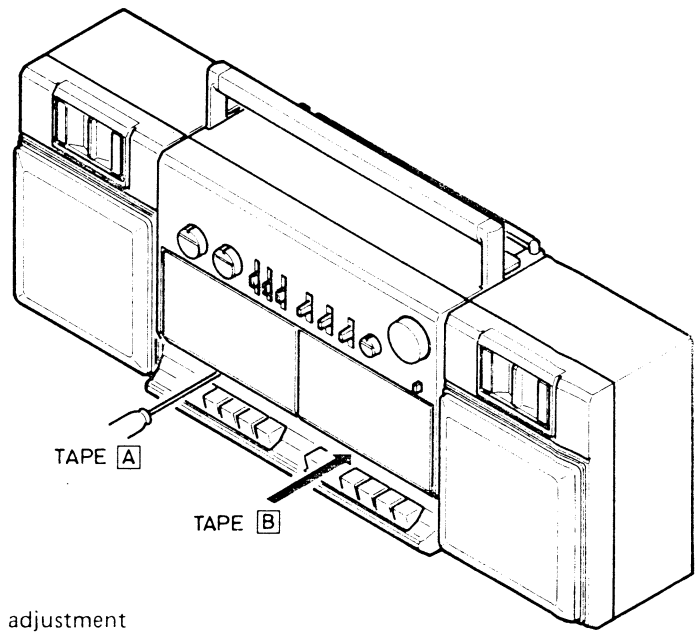
SANYO ELECTRIC TRADING CO., LTD.
33, Hiyoshi-cho 2-chome, Moriguchi-shi,

Printed in Japan 2,200 REFERENCE NO. WM-18722

HEAD REPLACEMENT AND AZIMUTH ADJUSTMENT

* After replacing the head, demagnetize the head by using a head eraser.
* Be sure to clean the head assembly before making the adjustment.
* Set the graphic equalizer volume as shown below.

100Hz
1kHz
10kHz
} 0 (center)



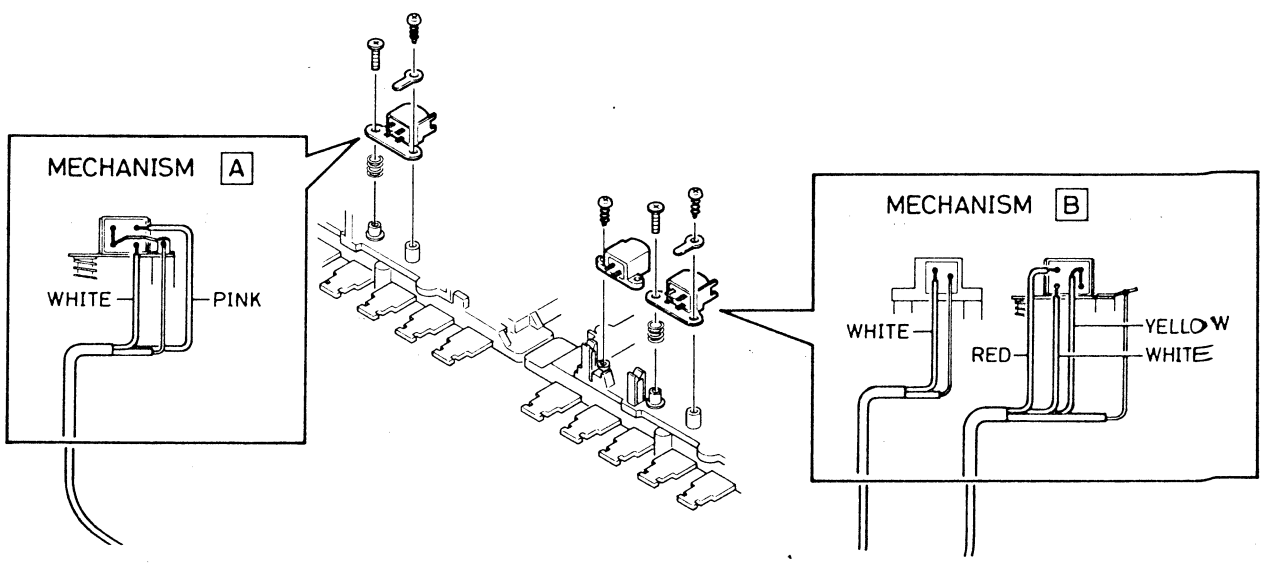
1. TAPE DECK A AZIMUTH ADJUSTMENT

(1) Insert the test tape (VTT-658, etc.: 10 kHz) for azimuth adjustment into tape deck A.
(2) Press tape deck A's play button.
(3) Use a cross-tip screwdriver to turn the screw for adjustment of the tape deck A azimuth so that the left/right outputs are maximized while tape deck A is playing back.

2. TAPE DECK B AZIMUTH ADJUSTMENT

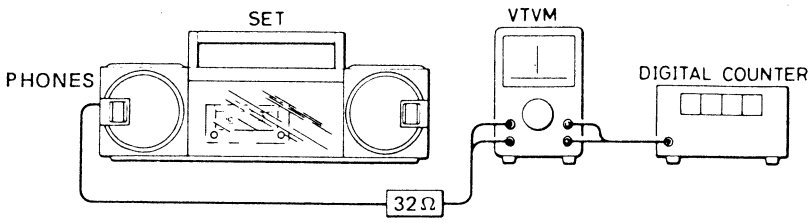
(1) Insert the test tape for azimuth adjustment into tape deck B.
(2) Press tape deck B's play button.
(3) Use a cross-tip screwdriver to turn the screw for adjustment of the tape deck B azimuth so that the left/right outputs are maximized while tape deck B is playing back.

HEAD REPLACEMENT



HOW TO REPLACE THE MOTOR AND ADJUST THE SPEED

- When making the speed adjustment, after first making the adjustment for tape deck A and tape deck B at the normal speed, then make the adjustment for tape deck A and tape deck B at the high speed.

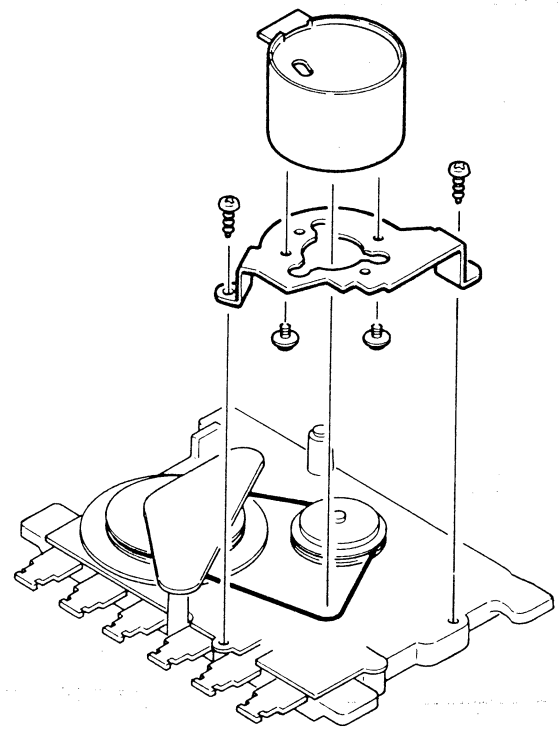


Motor speed adj.	Test tape used
Normal speed	MTT-111 etc.: 3,000Hz
High speed	TCC-211 etc.: 1,500Hz

* Set each volume and switch as shown below.

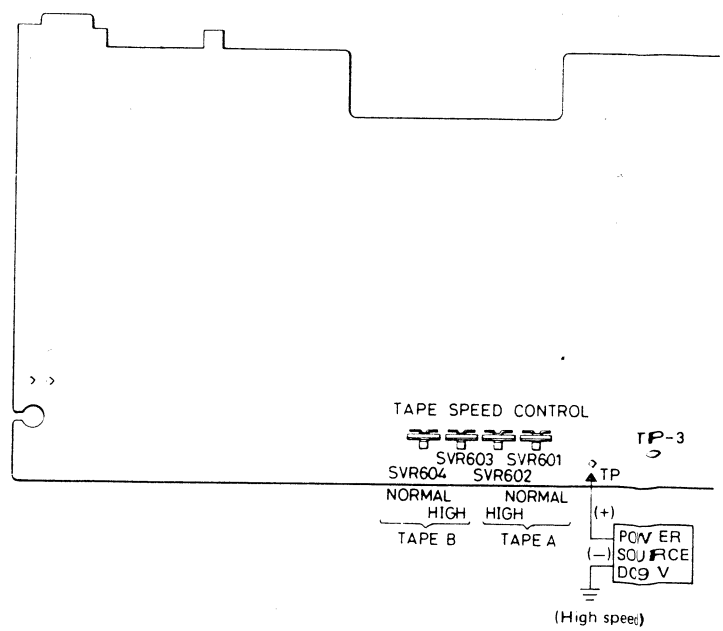
VOLUME : Center
BALANCE : Center
FUNCTION : TAPE
DUBBING SPEED : NORMAL

Graphic equalizer volume 100 Hz, 1 kHz, 10 kHz } 0 (Center)



Adj. SVR	Adjustment
SVR601	Tape deck A normal speed
SVR604	Tape deck B normal speed
SVR602	Tape deck A high speed
SVR603	Tape deck B high speed

TUNER & AMP. P.C.B



2. MOTOR SPEED ADJUSTMENT (normal speed)

(1) Set the dubbing speed selector to the normal speed setting.
(2) Insert the test tape (MTT-111, etc. 3,000 Hz) into tape deck A.
(3) Press tape deck A's play button.
(4) Adjust SVR601 (on the tuner & amp. board) so that the frequency counter shows a reading of 3,000 Hz.
(5) After adjusting tape deck A, insert the test tape into tape deck B.
(6) Press tape deck B's play button.
(7) Adjust SVR604 (on the tuner & amp. board) so that the frequency counter shows a reading of 3,000 Hz.

HOW TO REPLACE THE MOTOR AND ADJUST THE SPEED

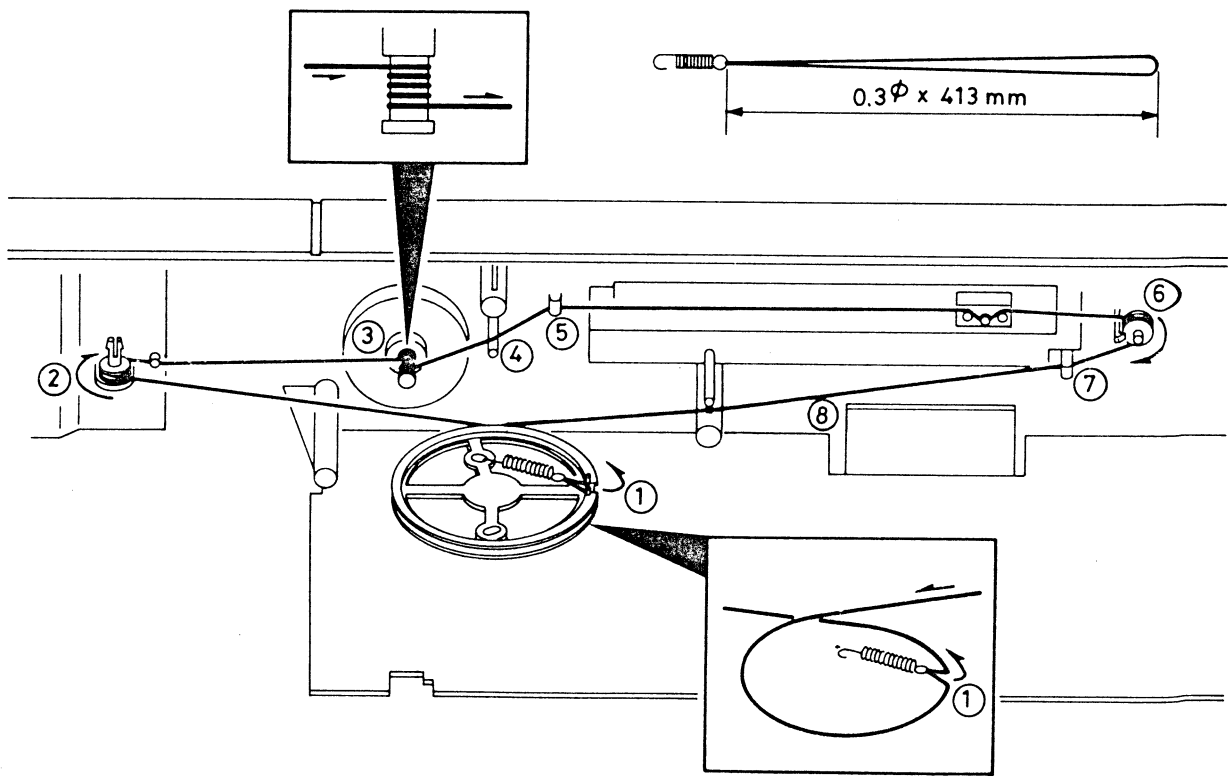
2. MOTOR SPEED ADJUSTMENT (high speed)

Set each switch as shown below.

FUNCTION : TAPE
DUBBING SPEED: NORMAL

(1) Insert the test tape (TCC-211, etc. 1,500 Hz) into tape deck A.
(2) To change to the high tape speed, connect a DC 9V power supply between earth and the tuner & amplifier board TP. (Apply DC 9V voltage to S741.)
(3) Press tape deck A's play button.
(4) Adjust SVR602 (on the tuner & amp. board) so that the frequency counter shows a reading of 3,000 Hz.
(5) Press tape deck A's stop button.
(6) Then insert the test tape into tape deck B.
(7) When adjusting tape deck B, put tape deck A in the playback mode.
(8) Press tape deck B's play button.
(9) Adjust SVR603 (on the tuner & amp. board) so that the frequency counter shows a reading of 3,000 Hz.
(10) Press tape deck A's & B's stop button.
(11) Disconnect the DC 9V power supply connected between earth and the tuner & amplifier board TP.

DIAL CORD STRINGING



ADJUSTMENT OF MECHANISM

* Clean the head, capstan and pinch roller before measurement.
* Check the torque and tension.

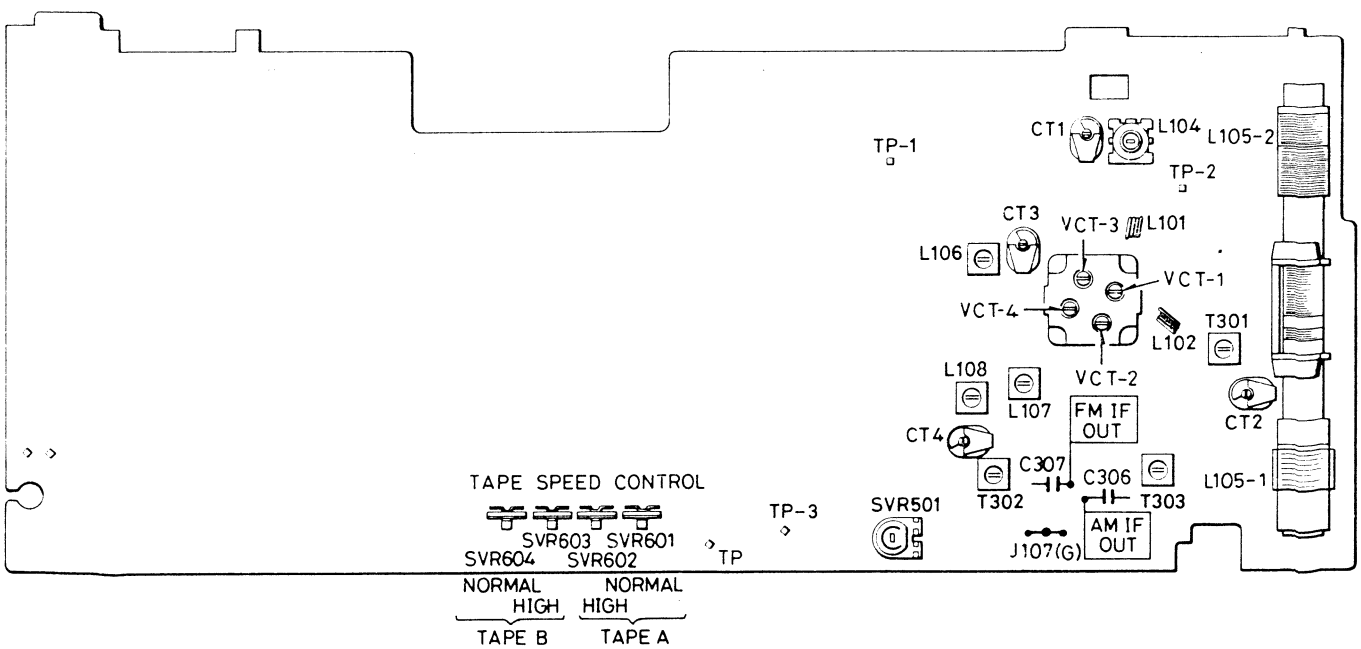
Measuring item	Take-up torque	Back tension	Tape tension
Cassette for measurement	PLAY: TW–2111 F.FWD/REW: TW–2231	PLAY/F.FWD: TW–2111 REW: torque gauge	Drive power cassette TW–2413
PLAY	30 ~ 60 gr · cm	2 ~ 4 gr · cm	150 gr or more
F. FWD	90 ~ 180 gr · cm	–	–
REW	90 ~ 180 gr · cm	–	–

ADJUSTMENT OF TUNER

* Use a plastic screwdriver for adjustment.
* Adjust the intermediate frequency of AM and FM to the frequency of ceramic filter.

Supply voltage : DC 9V
Speaker impedance : 3 Ω
Standard output : 50 mW (0.39V)
Function selector : RADIO
Graphic Equalizer
100 Hz
1 kHz
10 kHz
: Center

PARTS LOCATION



ADJUSTMENT OF TUNER

MW **BAND SELECT SW : MW**

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	IF	Place Sweep Generator's terminal closely to L105-2.	Connect sweep generator to C306, J107(G)	460kHz	Low	T303	MAX.
2	Tuning Coverage	Connect AM SG to Test Loop	Connect VTVM to speaker terminals	505kHz	Low End	L107	MAX.
3				1650kHz	High End	VCT-4	
4	Tracking	Connect AM SG to Test Loop	Connect VTVM to speaker terminals	600kHz	600kHz	L105-1	MAX.
5				1400kHz	1400kHz	VCT-3	
6	Repeat adjustments						

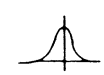
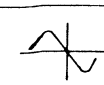
LW **BAND SELECT SW : LW**

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	Tuning Coverage	Connect AM SG to Test Loop	Connect VTVM to speaker terminals	145kHz	Low End	L108	MAX.
2				295kHz	High End	CT-4	
3	Tracking	Connect AM SG to Test Loop	Connect VTVM to speaker terminals	160kHz	160kHz	L105-2	MAX.
4				280kHz	280kHz	CT-2	
5	Repeat adjustments						

SW **BAND SELECT SW : SW**

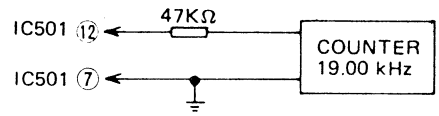
Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	Tuning Coverage	Connect AM SG to ANT terminal through dummy	Connect VTVM to speaker terminals	5.8MHz	Low End	L106	MAX.
2				19.0MHz	High End	CT-3	
3	Tracking	Connect AM SG to ANT terminal through dummy	Connect VTVM to speaker terminals	7.0MHz	7.0MHz	L104	MAX.
4				18.0MHz	18.0MHz	CT-1	
5	Repeat adjustments						

FM **BAND SELECT SW : FM** **FM DUMMY ANTENNA: 75Ω unbalance**

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	IF	Connect sweep generator to TP-1 & TP-2	Connect sweep generator to C307, J107(GND)	10.7MHz	Low	T301	
2	Detector		Connect sweep generator to C307, J107(GND)			T302	
3	Tuning Coverage	Connect FM SG to TP-1(H) & TP-2(E)	Connect VTVM to speaker terminals	87.35MHz	Low End	L102	MAX.
4				108.3MHz	High End	VCT-2	
5	Tracking	Connect FM SG to TP-1(H) & TP-2(E)	Connect VTVM to speaker terminals	90.0MHz	90.0MHz	L101	MAX.
6				106.0MHz	106.0MHz	VCT-1	
7	Repeat adjustments						

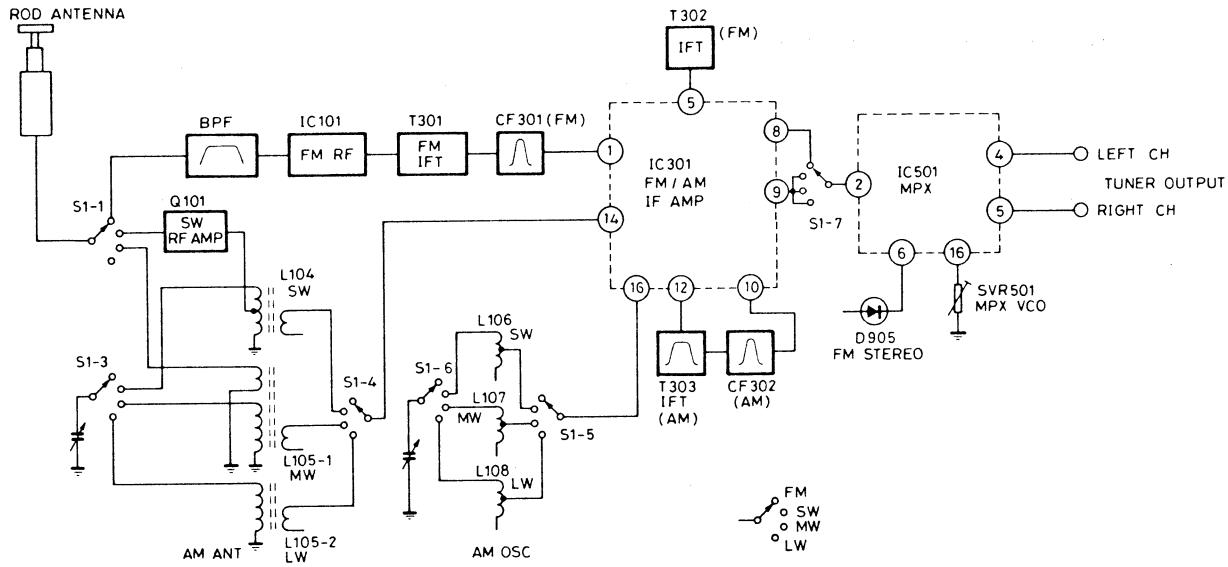
Adjustment of FM VCO

Radio band selector: FM STEREO

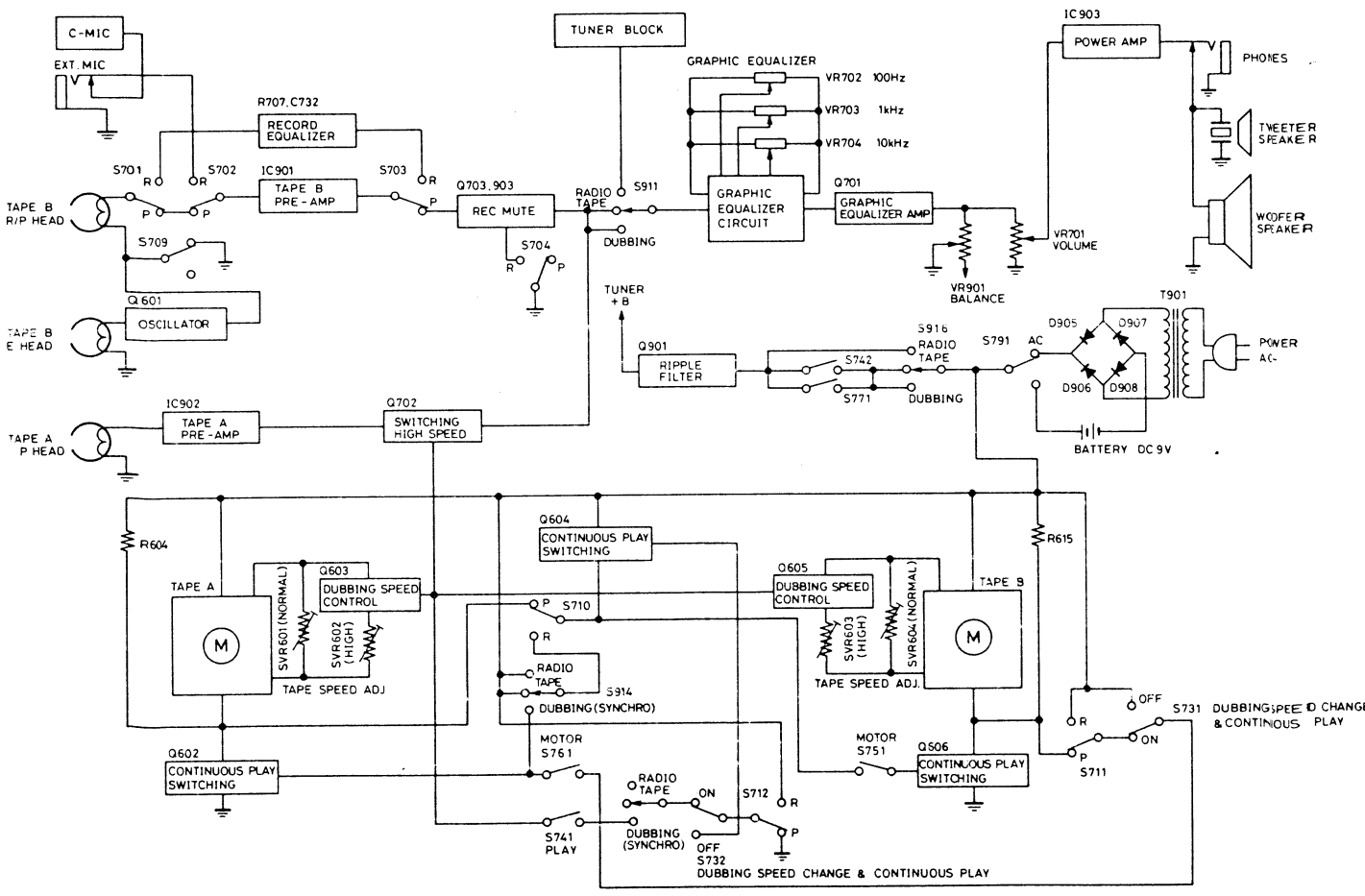


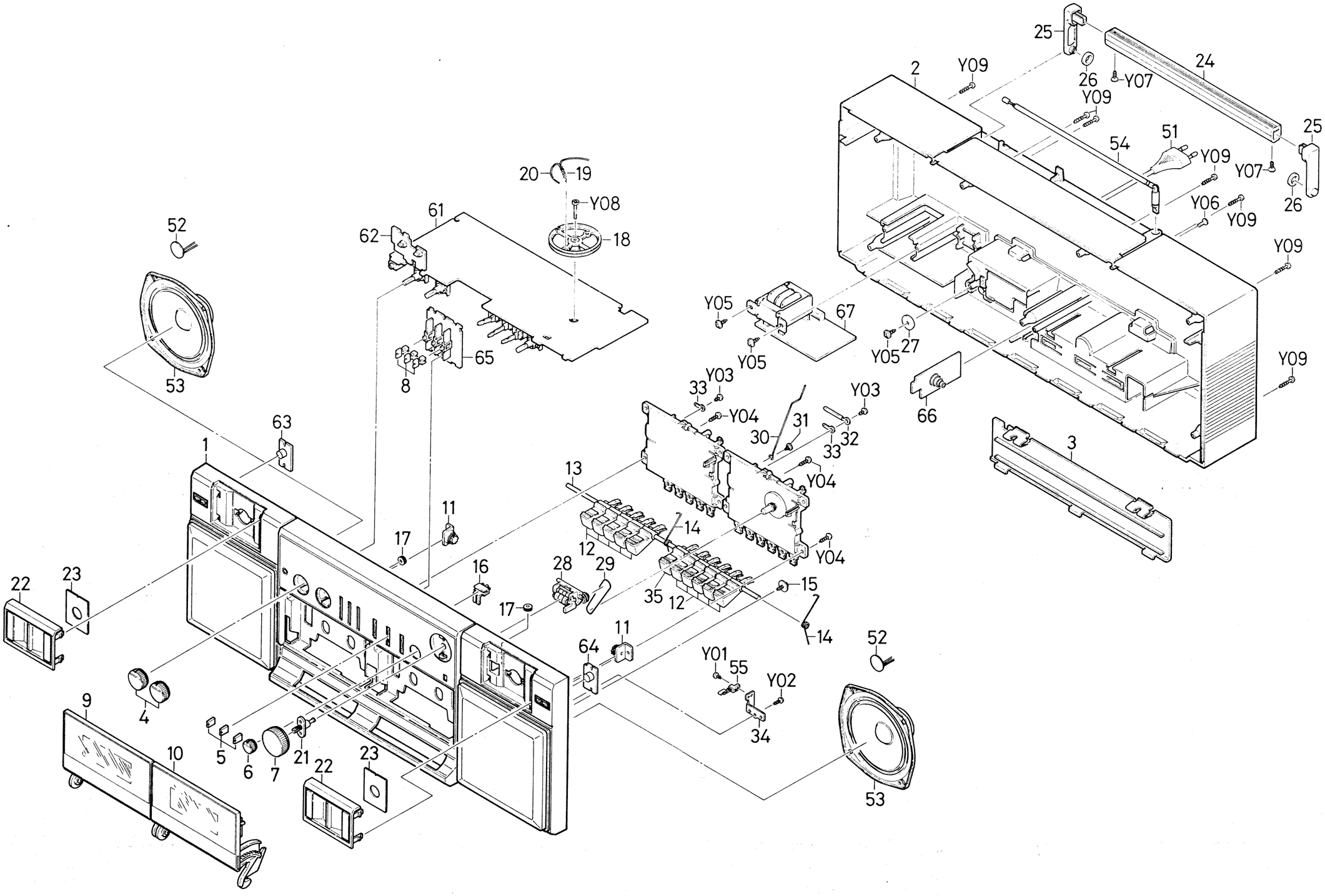
Turn SVR501 until the frequency counter reads 19.00 kHz ±100 Hz.

1. TUNER


ROD ANTENNA
T302
IFT
(FM)
BPF
IC101
FM RF
T301
FM IFT
CF301(FM)
IC301
FM/AM
IF AMP
IC501
MPX
LEFT CH
TUNER OUTPUT
RIGHT CH
S1-1
Q101
SW RF AMP
S1-7
L104 SW
L106 SW
S1-3
S1-4
S1-6
L107 MW
S1-5
L108 LW
L105-1 MW
L105-2 LW
AM ANT
AM OSC
T303 IFT (AM)
CF302 (AM)
D905 FM STEREO
SVR501 MPX VCO
FM
SW
MW
LW

2. AMP.


C-MIC
EXT. MIC
TUNER BLOCK
GRAPHIC EQUALIZER
VR702 100Hz
VR703 1kHz
VR704 10kHz
IC903
POWER AMP
PHONES
TWEETER SPEAKER
WOOFER SPEAKER
R707,C732
RECORD EQUALIZER
S701
S702
IC901
TAPE B PRE-AMP
S703
Q703,903
REC MUTE
RADIO TAPE
S911
DUBBING
GRAPHIC EQUALIZER CIRCUIT
Q701
GRAPHIC EQUALIZER AMP
VR701 VOLUME
VR901 BALANCE
TAPE B R/P HEAD
S709
S704
Q601
OSCILLATOR
TAPE B E HEAD
TUNER +B
Q901
RIPPLE FILTER
S916
RADIO TAPE
S742
S771
DUBBING
S791
AC
D905
D907
D906
D908
T901
POWER AC
BATTERY DC 9V
IC902
TAPE A PRE-AMP
Q702
SWITCHING HIGH SPEED
TAPE A P HEAD
R604
Q604
CONTINUOUS PLAY SWITCHING
R615
TAPE A
Q603
DUBBING SPEED CONTROL
SVR601 (NORMAL)
SVR602 (HIGH)
TAPE SPEED ADJ
S710
RADIO TAPE
S914
DUBBING (SYNCHRO)
Q605
DUBBING SPEED CONTROL
SVR603 (HIGH)
SVR604 (NORMAL)
TAPE SPEED ADJ.
TAPE B
OFF
S731
DUBBING SPEED CHANGE & CONTINUOUS PLAY
ON
S711
MOTOR S761
MOTOR S751
Q506
CONTINUOUS PLAY SWITCHING
Q602
CONTINUOUS PLAY SWITCHING
RADIO TAPE
ON
S712
S741 PLAY
DUBBING (SYNCHRO)
OFF
S732
DUBBING SPEED CHANGE & CONTINUOUS PLAY


52
53
63
1
61
62
20
19
Y08
18
65
8
25
2
Y09
26
Y07
24
Y09
54
51
Y09
Y07
25
26
Y06
Y09
Y09
Y05
67
Y05
27
Y05
Y09
Y03
33
Y04
31
Y03
66
30
33
32
Y04
3
13
11
17
14
12
Y04
16
28
29
35
12
15
17
14
22
23
64
11
52
Y01
55
Y02
34
4
9
10
5
6
7
21
22
23
53

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

NOTE:

* Materials of Capacitors and Resistors are abbreviated as follows;

AL ELECT .....Aluminum Electrolytic
BC CON .....Semiconductor Ceramic
CHIP BC .....Chip Semiconductor Ceramic
CHIP TAN .....Chip Tantal
ELECT .....Electrolytic
PP CON .....Polypropylene
MT GLAZE .....Metal Glaze
FP CARBON .....Flameproof Carbon

* Tolerance of Capacitors and Resistors are noted with follow symboles;

J .....±5%
K .....±10%
M .....±20%
N .....±30%
P .....+100−0%
Q .....+30−10%
Z .....+80−20%

PACKING & ACCESSORIES

Ref. No.	Part No.	Description
	141-6-133T-69804	INNER CORR CASE
	141-6-145T-10300	FOAM PLASTIC CASE, LEFT
	141-6-145T-10400	FOAM PLASTIC CASE, RIGHT
	141-6-409T-21804	INSTRUCTION MANUAL
	141-6-231T-40805	INNER POLYE COVER, 400X800MM, SET

CABINET & CHASSIS

Ref. No.	Part No.	Description
1	141-0-111T-66903	CABINET ASSY
2	141-0-126T-54004	BACK LID ASSY
3	141-2-128T-17830	BATTERY LID
4	141-2-163T-63202	ROTARY KNOB, VOLUME/BALANCE
5	141-2-156T-31400	CUP KNOB, DUBBING SPEED/ FUNCTION/BAND (3 USED)
6	141-2-163T-63304	ROTARY KNOB, FINE TUNE
7	141-2-163T-63102	ROTARY KNOB, TUNING
8	141-2-164T-40300	SLIDE KNOB, GRAPHIC EQUALIZER (3 USED)
9	141-0-124T-47905	TOP LID ASSY, TAPE A, LEFT
10	141-0-124T-47904	TOP LID ASSY, TAPE B, RIGHT
11	141-0-581T-32002	GEAR ASSY, TOP LID (2 USED)
12	141-2-162T-23900	LEVER KNOB, MECHANISM OPERATION (10 USED)
13	141-2-754T-69400	SHAFT, LEVER KNOB MECHANISM
14	141-2-860T-00300	SPRING WIRE, TOP LID (2 USED)
15	141-2-421T-55600	SPECIAL SCREW, 3X10MM W/WASHER
16	141-2-511T-30100	POINTER
17	141-2-661T-19200	PULLEY, DIAL ROPE (2 USED)
18	141-2-538T-12700	DRUM, DIAL ROPE
19	141-2-851T-06300	SPRING COIL, DRUM
20	141-2-340T-03001	ROPE, DIAL, 0.3X1000MM
21	141-0-566T-09100	TUNING SHAFT ASSY
22	141-2-154T-05000	ESCUTCHEON, TWEETER SPEAKER (2 USED)
23	141-2-247T-42700	SHEET, TWEETER SPEAKER (2 USED)
24	141-2-171T-22300	HANDLE
25	141-2-271T-22400	BRACKET HANDLE (2 USED)
26	141-2-352T-73600	SPACER, HANDLE (2 USED)

Ref. No.	Part No.	Description
27	123-2-453R-10500	PLASTIC WASHER, POWER CORD
28	141-2-811T-14900	COUNTER, TAPE
29	141-2-564T-37700	SQUARE BELT, TAPE COUNTER
30	141-2-860T-00400	SPRING WIRE, RECORD/PLAY
31	141-2-421T-51101	SPECIAL SCREW, RECORD/PLAY
32	141-2-472T-01001	LUG, LEAD MTG.
33	123-2-472R-00401	LUG, GROUND (2 USED)
34	141-2-365T-61000	BRACKET SWITCH, STOP
35	141-2-162T-23930	LEVER KNOB, RECORD

FIXING PARTS

Ref. No.	Part No.	Description
Y1	BJN2S2R6+6+Z1	PAN HD 2 TAPPING SCREW 2.6X6MM
Y2	BJN2S2R6+8+Z1	PAN HD 2 TAPPING SCREW 2.6X8MM
Y3	BJN2S++3+4+Z1	PAN HD 2 TAPPING SCREW 3X4MM (2 USED)
Y4	BJN2S++312+Z1	PAN HD 2 TAPPING SCREW 3X12MM (3 USED)
Y5	BJX6S++310+Z1	PAN WASHER HD 2 TAPPING SCREW 3X10MM (3 USED)
Y6	BJS+S++310+ZK	FLAT HD SCREW 3X10MM
Y7	BJS2S++3+8+ZK	FLAT HD 2 TAPPING SCREW 3X8MM (2 USED)
Y8	BJRBS2R620+Z1	HEXAGON HEAD BOLT, 2.6X20MM
Y9	BJB2S++320+Z1	BIND HD 2 TAPPING SCREW 3X20MM (7 USED)

ELECTRICAL PARTS

Ref. No.		Part No.	Description
51	⚠	4-243T-84973	POWER CORD
52		4-151T-42300	SPEAKER, TWEETER (2 USED)
or		4-151T-44500	SPEAKER, TWEETER (2 USED)
or		4-151T-45900	SPEAKER, TWEETER (2 USED)
53		4-151T-55171	SPEAKER, WOOFER, 3 OHM (2 USED)
54		4-244T-04900	ROD ANTENNA
55	⚠	4-234T-11084	FUSE, 1A, 250V

Ref. No.	Part No.	Description
	4-240T-25300	SOCKET, SPEAKER (3 USED)
S901	4-231T-71200	SWITCH, STOP
C630	CE+16107MVHAS	ELECT 100MF 16V M V HA S
C631	CE+16107MVHAS	ELECT 100MF 16V M V HA S

TUNER & AMP. P.C.B ASSY

Ref. No.	Part No.	Description
61	141-4-280T-99172	P.C BOARD ASSY, TUNER & AMP.
	4-240T-70200	SOCKET, EXT. MIC (2 USED)
	4-240T-53800	SOCKET, PHONES
	4-240T-83572	SOCKET, 2P
	4-240T-83576	SOCKET, 6P
	4-240T-11200	SOCKET, 3P
	4-236T-24572	PLUG, 2P
	4-237T-00100	TERMINAL BOARD
or	141-2-382T-16700	TERMINAL
VC/VCT	4-224T-17700	TUNING CAPACITOR
CT1	4-224R-01472	TRIMMER, 8PF
CT2	4-224T-15471	TRIMMER, 30PF
CT3	4-224R-01472	TRIMMER, 8PF
CT4	4-224T-15471	TRIMMER, 30PF
T301	4-256T-36442	I.F.T, FM
T302	4-256T-36542	I.F.T, FM
T303	4-256T-36642	I.F.T, AM
L101	4-265R-11300	V.H.F COIL, FM
L102	4-265T-51310	V.H.F COIL, FM
L103	4-253T-15012	FILTER, 2.2UH
L104	4-257T-51010	ANTENNA COIL, SW
L105	4-257T-70201	ANTENNA COIL, MW/LW
L106	4-258T-51442	O.S.C COIL, SW
L107	4-258T-51342	O.S.C COIL, MW
L108	4-258T-51542	O.S.C COIL, LW
L601	4-258T-52740	O.S.C COIL
CF301	4-256T-81000	I.F FILTER, FM, RED
or	4-256T-81071	I.F FILTER, FM, BLUE
or	4-256T-81072	I.F FILTER, FM, ORANGE
or	4-256T-81073	I.F FILTER, FM, BLACK
or	4-256T-81074	I.F FILTER, FM, WHITE
CF302	4-256T-81171	I.F FILTER, AM
BPF	4-253T-13400	FILTER, FM
S1	4-238T-77700	SWITCH, BAND SELECT
S701	4-248T-00600	SWITCH, RECORD/PLAY (S701~712)
S721	4-238T-91971	SWITCH, FM MODE/BEAT CANCEL (S721)
S731	4-248T-00400	SWITCH, DUBBING SPEED/CONT PLAY (S731,732)
S911	4-238T-88000	SWITCH, FUNCTION (S911~916)
VR101	4-222T-95800	VARIABLE RESISTOR, 50K OHB "B", FINE TUNE
VR701	4-220T-13500	VARIABLE RESISTOR, VOLUME, 50KA (VR701,801)
VR901	4-220T-13700	VARIABLE RESISTOR, BALANCE, 50KW (VR901)
SVR501	4-220T-33177	SEMI-FIXED RESISTOR, 10K OHM
or	4-222T-97575	SEMI-FIXED RESISTOR, 10K OHM
SVR601	4-222T-85872	SEMI-FIXED RESISTOR, 1K OHM
SVR602	4-222T-85872	SEMI-FIXED RESISTOR, 1K OHM
SVR603	4-222T-85872	SEMI-FIXED RESISTOR, 1K OHM
SVR604	4-222T-85872	SEMI-FIXED RESISTOR, 1K OHM
TP	4-237T-00100	TERMINAL BOARD (3 USED)
or	141-2-382T-16700	TERMINAL (3 USED)
IC101	SITA7358P++++	IC TA7358P
IC301	SILA1260S++++	IC LA1260S
IC501	SIBA1332+++++	IC BA1332
IC901	SIM51164AL+++	IC M51164AL
IC902	SILA3160+++++	IC LA3160
IC903	SIBA5406+++++	IC BA5406
Q101	STC930+E++++B	TR 2SC930 E B
Q601	STC1740S+++++	TR 2SC1740 S

Ref. No.	Part No.	Description
Q601	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q602	STD734+F+++++	TR 2SD734 F
Q603	STC1740S+++++	TR 2SC1740 S
or	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q604	STA608+G+++++	TR 2SA608 G
Q605	STC1740S+++++	TR 2SC1740 S
or	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q606	STD734+F+++++	TR 2SD734 F
Q702	STC1740S+++++	TR 2SC1740 S
or	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q703	STC1740S+++++	TR 2SC1740 S
or	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q802	STC1740S+++++	TR 2SC1740 S
or	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q803	STC1740S+++++	TR 2SC1740 S
or	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q901	STD734+F+++++	TR 2SD734 F
Q902	STC1740S+++++	TR 2SC1740 S
or	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q903	STA608+G+++++	TR 2SA608 G
D101	SDDS442+X+++T	DIODE DS442 X
D102	SC1S553T++++T	VARACTOR DIODE 1S553T
D103	SC1S553T++++T	VARACTOR DIODE 1S553T
D301	SD1N60++++F++	DIODE 1N60 FM
D304	SDDS442+X+++T	DIODE DS442 X
D601	SDGMA01+++++T	DIODE GMA01
or	SD1SS133++++T	DIODE 1SS133
D602	SDGMA01+++++T	DIODE GMA01
or	SD1SS133++++T	DIODE 1SS133
D603	SDGMA01+++++T	DIODE GMA01
or	SD1SS133++++T	DIODE 1SS133
D903	SDGZA075Y++++	ZENER DIODE GZA7.5Y
D911	SDDS442+X+++T	DIODE DS442 X
D912	SDGMA01+++++T	DIODE GMA01
or	SD1SS133++++T	DIODE 1SS133
D913	SDGMA01+++++T	DIODE GMA01
or	SD1SS133++++T	DIODE 1SS133
C101	CB+16103NA+YG	BC CON 0.01MF 16V N A+ Y G
C102	CC+50200JASLG	CERAMIC 20PF 50V J A L
C103	CC+504R7KASLG	CERAMIC 4.7PF 50V K A L
C104	CC+50220JARH+	CERAMIC 22PF 50V J A H
C105	CC+50150JACHG	CERAMIC 15PF 50V J A H
C106	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C107	CC+503R9KACHG	CERAMIC 3.9PF 50V K A H
C108	CB+16103NA+YG	BC CON 0.01MF 16V N A+ Y G
C109	CB+25223MRXRF	BC CON 0.022MF 25V M R XR
C110	CC+50223ZRYFF	CERAMIC 0.022 50V Z R F
C126	CC+505R6KASLG	CERAMIC 5.6PF 50V K A L
C133	CC+502R7KASLG	CERAMIC 2.7PF 50V K A L
C134	CC+50560JASLG	CERAMIC 56PF 50V J A L
C136	CB+16332MAXRG	BC CON 0.0033MF 16V M A X R
C137	CC+502R2KAUJG	CERAMIC 2.2PF 50V K A J
C138	CN100341JR++F	P P CON 340PF 100V J R
C139	CC+50100JAUJG	CERAMIC 10PF 50V J A U
C140	CS+50251JT++S	STYROL 250PF 50V J T
C141	CC+50181JRCHF	CERAMIC 180PF 50V J R H
C142	CC+50100JASLG	CERAMIC 10PF 50V J A L
C143	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C145	CC+503R3KASLG	CERAMIC 3.3PF 50V K A L
C146	CC+50470JASLG	CERAMIC 47PF 50V J A L
C147	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C148	CC+50150JASLG	CERAMIC 15PF 50V J A L
C149	CC+50101KAYBG	CERAMIC 100PF 50V K A B
C150	CC+50101KAYBG	CERAMIC 100PF 50V K A B
C301	CC+50223ZRYFF	CERAMIC 0.022 50V Z R F
C302	CC+50223ZRYFF	CERAMIC 0.022 50V Z R F

PARTS LIST

Ref. No.	Part No.	Description
C303	CC+50223ZRYFF	CERAMIC 0.022 50V Z R YF
C304	CB+25473MRXRF	BC CON 0.047MF 25V M R XR
C305	CE+10226MRHAF	ELECT 22MF 10V M R HA F
C306	CB+25223MRXRF	BC CON 0.022MF 25V M R XR
C307	CC+50221KAYBG	CERAMIC 220PF 50V K A YB
C308	CB+25223MRXRF	BC CON 0.022MF 25V M R XR
C309	CE+10227MRHAF	ELECT 220MF 10V M R HA F
C311	CB+25153MRXRF	BC CON 0.015MF 25V M R XR
C501	CE+50225MRHAF	ELECT 2.2MF 50V M R HA F
C503	CB+25223MRXRF	BC CON 0.022MF 25V M R XR
C504	CN100102JR++F	P P CON 1000PF 100V J R
C505	CE+50474MRHAF	ELECT 0.47MF 50V M R HA F
C506	CE+50225MRHAF	ELECT 2.2MF 50V M R HA F
C508	CB+25333MRXRF	BC CON 0.033MF 25V M R XR
C509	CB+25333MRXRF	BC CON 0.033MF 25V M R XR
C510	CE+50225MRHAF	ELECT 2.2MF 50V M R HA F
C511	CE+50225MRHAF	ELECT 2.2MF 50V M R HA F
C513	CC+50101KAYBG	CERAMIC 100PF 50V K A YB
C601	CB+25103MDXRS	BC CON 0.01MF 25V M D XR
C602	CB+16122MAXRG	BC CON 0.0012MF 16V M A XR
C603	CM+50183JR++F	MYLAR 0.018MF 50V J R
C604	CB+25473MRXRF	BC CON 0.047MF 25V M R XR
C605	CB+16682MAXRG	BC CON 0.0068MF 16V M A XR
C606	CB+25103MRXRF	BC CON 0.01MF 25V M R XR
C607	CE+10226MRHAF	ELECT 22MF 10V M R HA F
C632	CE+50105MVHAS	ELECT 1MF 50V M V HA S
C702	CB+25153MRXRF	BC CON 0.015MF 25V M R XR
C703	CB+16332MAXRG	BC CON 0.0033MF 16V M A XR
C704	CC+50331KAYBG	CERAMIC 330PF 50V K A YB
C705	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C707	CE+10476MRHAF	ELECT 47MF 10V M R HA F
C708	CB+25333KRXRF	BC CON 0.033MF 25V K R XR
C709	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C719	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C720	CM+50154MM++S	MYLAR 0.15MF 50V M M
C721	CE+16476MRHAF	ELECT 47MF 16V M R HA F
C723	CE+10336MRHAF	ELECT 33MF 10V M R HA F
C724	CE+10477MY++S	ELECT 470MF 10V M Y
C725	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C726	CC+50471KAYBG	CERAMIC 470PF 50V K A YB
C727	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C728	CE+10476MRHAF	ELECT 47MF 10V M R HA F
C729	CB+25333KRXRF	BC CON 0.033MF 25V K R XR
C730	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C731	CB+25473MRXRF	BC CON 0.047MF 25V M R XR
C732	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C733	CB+25273MRXRF	BC CON 0.027MF 25V M R XR
C734	CB+25683MRXRF	BC CON 0.068MF 25V M R XR
C735	CC+50101KAYBG	CERAMIC 100PF 50V K A YB
C802	CB+25153MRXRF	BC CON 0.015MF 25V M R XR
C803	CB+16222MAXRG	BC CON 0.0022MF 16V M A XR
C804	CC+50331KAYBG	CERAMIC 330PF 50V K A YB
C805	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C807	CE+10476MRHAF	ELECT 47MF 10V M R HA F
C808	CB+25333KRXRF	BC CON 0.033MF 25V K R XR
C809	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C819	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C820	CM+50154MM++S	MYLAR 0.15MF 50V M M
C821	CE+16476MRHAF	ELECT 47MF 16V M R HA F
C823	CE+10336MRHAF	ELECT 33MF 10V M R HA F
C824	CE+10477MY++S	ELECT 470MF 10V M Y
C825	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C826	CC+50471KAYBG	CERAMIC 470PF 50V K A YB
C827	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C828	CE+10476MRHAF	ELECT 47MF 10V M R HA F
C829	CB+25333KRXRF	BC CON 0.033MF 25V K R XR
C830	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C831	CB+25473MRXRF	BC CON 0.047MF 25V M R XR
C832	CB+16122MAXRG	BC CON 0.0012MF 16V M A XR
C833	CB+25273MRXRF	BC CON 0.027MF 25V M R XR
C834	CB+25683MRXRF	BC CON 0.068MF 25V M R XR
C835	CC+50101KAYBG	CERAMIC 100PF 50V K A YB
C901	CE+10226MRHAF	ELECT 22MF 10V M R HA F
C902	CE+10226MRHAF	ELECT 22MF 10V M R HA F
C904	CE+16476MRHAF	ELECT 47MF 16V M R HA F
C905	CE+10477MY++S	ELECT 470MF 10V M Y
C906	CE+16106MRHAF	ELECT 10MF 16V M R HA F
C907	CE+10107MRHAF	ELECT 100MF 10V M R HA F
C909	CE+10477MVHAS	ELECT 470MF 10V M V HA S
C910	CC+50223ZRYFF	CERAMIC 0.022 50V Z R YF
C911	CE+16107MRHAF	ELECT 100MF 16V M R HA F
C912	CE+10227MRHAF	ELECT 220MF 10V M R HA F
C920	CE+16228MY++S	ELECT 2200MF 16V M Y
C921	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C922	CB+25223MRXRF	BC CON 0.022MF 25V M R XR
C923	CE+16107MVHAS	ELECT 100MF 16V M V HA S
R101	RC +4220JT++R	CARBON T 22 OHM J1/4WR25
R102	RC +4104JT++R	CARBON T 100KOHM J1/4WR25
R103	RC +4334JT++R	CARBON T 330KOHM J1/4WR25
R105	RC +4274JT++R	CARBON T 270KOHM J1/4WR25
R106	RC +4332JT++R	CARBON T 3.3KOHM J1/4WR25
R107	RC +4152JT++R	CARBON T 1.5KOHM J1/4WR25
R110	RC +6270JT+++	CARBON T 27 OHM J 1/6W
R132	RC +4102JT++R	CARBON T 1K OHM J1/4WR25
R133	RC +4274JT++R	CARBON T 270KOHM J1/4WR25
R301	RC +4101JT++R	CARBON T 100 OHM J1/4WR25
R304	RC +4682JT++R	CARBON T 6.8KOHM J1/4WR25
R305	RC +4270JP++R	CARBON P 27 OHM J1/4WR25
R501	RC +4682JT++R	CARBON T 6.8KOHM J1/4WR25
R502	RC +6681JT+++	CARBON T 680 OHM J 1/6W
R503	RC +6392JT+++	CARBON T 3.9K OHM J 1/6W
R504	RC +6102JT+++	CARBON T 1K OHM J 1/6W
R505	RC +6332JT+++	CARBON T 3.3K OHM J 1/6W
R506	RC +6332JT+++	CARBON T 3.3K OHM J 1/6W
R507	RC +6562JT+++	CARBON T 5.6K OHM J 1/6W
R508	RC +6562JT+++	CARBON T 5.6K OHM J 1/6W
R601	RC +64R7JT+++	CARBON T 4.7 OHM J 1/6W
R602	RC +4332JT++R	CARBON T 3.3KOHM J1/4WR25
R603	RC +4330JP++R	CARBON P 33 OHM J1/4WR25
R605	RM +4271JP+HR	METAL P 270 OHM J 1/4WR25
R606	RC +6470JT+++	CARBON T 47 OHM J 1/6W
R607	RM +4181JP+HR	METAL P 180 OHM J 1/4WR25
R608	RC +6331JT+++	CARBON T 330 OHM J 1/6W
R611	RC +6563JT+++	CARBON T 56K OHM J 1/6W
R612	RM +4181JP+HR	METAL P 180 OHM J 1/4WR25
R613	RC +6470JT+++	CARBON T 47 OHM J 1/6W
R614	RM +4271JP+HR	METAL P 270 OHM J 1/4WR25
R616	RC +6331JT+++	CARBON T 330 OHM J 1/6W
R617	RC +6222JT+++	CARBON T 2.2K OHM J 1/6W
R618	RC +6222JT+++	CARBON T 2.2K OHM J 1/6W
R619	RM +4821JP+HR	METAL P 820 OHM J 1/4WR25
R620	RM +4561JP+HR	METAL P 560 OHM J 1/4WR25
R621	RM +4821JP+HR	METAL P 820 OHM J 1/4WR25
R622	RM +4561JP+HR	METAL P 560 OHM J 1/4WR25
R623	RC +6103JT+++	CARBON T 10K OHM J 1/6W
R624	RC +6103JT+++	CARBON T 10K OHM J 1/6W
R625	RC +6102JT+++	CARBON T 1K OHM J 1/6W
R701	RC +4332JT++R	CARBON T 3.3KOHM J1/4WR25
R702	RC +4272JT++R	CARBON T 2.7KOHM J1/4WR25
R703	RC +4392JT++R	CARBON T 3.9KOHM J1/4WR25
R704	RC +6270JT+++	CARBON T 27 OHM J 1/6W
R705	RC +6472JT+++	CARBON T 4.7K OHM J 1/6W
R707	RC +6333JT+++	CARBON T 33K OHM J 1/6W
R708	RC +6272JT+++	CARBON T 2.7K OHM J 1/6W
R709	RC +6563JT+++	CARBON T 56K OHM J 1/6W
R710	RC +4224JT++R	CARBON T 220KOHM J1/4WR25
R711	RC +6392JT+++	CARBON T 3.9K OHM J 1/6W
R725	RC +42R2JT++R	CARBON T 2.2 OHM J1/4WR25
R726	RC +4151JT++R	CARBON T 150 OHM J1/4WR25
R727	RC +4101JT++R	CARBON T 100 OHM J1/4WR25
R728	RC +6104JT+++	CARBON T 100K OHM J 1/6W
R729	RC +6330JT+++	CARBON T 33 OHM J 1/6W
R730	RC +6472JT+++	CARBON T 4.7K OHM J 1/6W
R731	RC +6272JT+++	CARBON T 2.7K OHM J 1/6W
R732	RC +4392JT++R	CARBON T 3.9KOHM J1/4WR25
R733	RC +6272JT+++	CARBON T 2.7K OHM J 1/6W
R734	RC +4153JT++R	CARBON T 15K OHM J1/4WR25

PARTS LIST

Ref. No.	Part No.	Description
R735	RC +6153JT+++	CARBON T 15K OHM J 1/6W
R740	RC +6472JT+++	CARBON T 4.7K OHM J 1/6W
R741	RC +6563JT+++	CARBON T 56K OHM J 1/6W
R801	RC +6332JT+++	CARBON T 3.3K OHM J 1/6W
R802	RC +6272JT+++	CARBON T 2.7K OHM J 1/6W
R803	RC +4392JT++R	CARBON T 3.9KOHM J1/4WR25
R804	RC +6270JT+++	CARBON T 27 OHM J 1/6W
R805	RC +6472JT+++	CARBON T 4.7K OHM J 1/6W
R807	RC +6333JT+++	CARBON T 33K OHM J 1/6W
R808	RC +6272JT+++	CARBON T 2.7K OHM J 1/6W
R809	RC +6563JT+++	CARBON T 56K OHM J 1/6W
R810	RC +6224JT+++	CARBON T 220K OHM J 1/6W
R811	RC +6392JT+++	CARBON T 3.9K OHM J 1/6W
R825	RC +42R2JT++R	CARBON T 2.2 OHM J1/4WR25
R826	RC +4151JT++R	CARBON T 150 OHM J1/4WR25
R827	RC +4101JT++R	CARBON T 100 OHM J1/4WR25
R828	RC +6104JT+++	CARBON T 100K OHM J 1/6W
R829	RC +6330JT+++	CARBON T 33 OHM J 1/6W
R830	RC +6472JT+++	CARBON T 4.7K OHM J 1/6W
R831	RC +4272JT++R	CARBON T 2.7KOHM J1/4WR25
R832	RC +6392JT+++	CARBON T 3.9K OHM J 1/6W
R833	RC +6272JT+++	CARBON T 2.7K OHM J 1/6W
R834	RC +4153JT++R	CARBON T 15K OHM J1/4WR25
R835	RC +6153JT+++	CARBON T 15K OHM J 1/6W
R840	RC +6472JT+++	CARBON T 4.7K OHM J 1/6W
R841	RC +6563JT+++	CARBON T 56K OHM J 1/6W
R901	RC +6561JT+++	CARBON T 560 OHM J 1/6W
R902	RC +6102JT+++	CARBON T 1K OHM J 1/6W
R903	RC +4515JV++R	CARBON V 5.1MOHM J1/4WR25
R904	RC +6101JT+++	CARBON T 100 OHM J 1/6W
R906	RC +4561JT++R	CARBON T 560 OHM J1/4WR25
R908	RC +6122JT+++	CARBON T 1.2K OHM J 1/6W
R909	RC +6101JT+++	CARBON T 100 OHM J 1/6W
R910	RC +4391JT+++	CARBON T 390 OHM J 1/4W
R911	RC +6153JT+++	CARBON T 15K OHM J 1/6W
R912	RC +6101JT+++	CARBON T 100 OHM J 1/6W
R913	RC +6101JT+++	CARBON T 100 OHM J 1/6W

LED P.C.B ASSY

Ref. No.	Part No.	Description
62	141-4-280T-99200	P.C BOARD ASSY, LED
D904	SLSLP165B++RE	LED SLP165B RED, OPE/BATTERY
D910	SLSLP165B++RE	LED SLP165B RED, FM STEREO
R907	RC +4221JT++R	CARBON T 220 OHM J1/4WR25

L-CH MIC P.C.B ASSY

Ref. No.	Part No.	Description
63	141-4-280T-99300	P.C BOARD ASSY, L-CH MIC
	4-153T-12871	MIC, BUILT-IN, L-CH
or	4-153T-12872	MIC, BUILT-IN, L-CH
D701	SDGZA062X++++	ZENER DIODE GZA6.2X
or	SDGZA062Y++++	ZENER DIODE GZA6.2Y
or	SDGZA062Z++++	ZENER DIODE GZA6.2Z

R-CH MIC P.C.B ASSY

Ref. No.	Part No.	Description
64	141-4-280T-99400	P.C BOARD ASSY, R-CH MIC
	4-153T-12871	MIC, BUILT-IN, R-CH
or	4-153T-12872	MIC, BUILT-IN, R-CH
D801	SDGZA062X++++	ZENER DIODE GZA6.2X
or	SDGZA062Y++++	ZENER DIODE GZA6.2Y
or	SDGZA062Z++++	ZENER DIODE GZA6.2Z

GRAPHIC EQUALIZER VOLUME P.C.B ASSY

Ref. No.	Part No.	Description
65	141-4-280T-99500	P.C BOARD ASSY, GRAPHIC EQUALIZER VOLUME
	4-220T-26300	VARIABLE RESISTOR, 100K OHM (VR701~703,801~803) (3 USED)
	4-240T-83576	SOCKET, 6P
Q701	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q801	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
C710	CB+25183MRXRF	BC CON 0.018MF 25V M R XR
C711	CB+16822MA+YG	BC CON 0.0082MF 16V M A Y
C712	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C713	CC+50681KAYBG	CERAMIC 680PF 50V K A YB
C714	CB+25153MRXRF	BC CON 0.015MF 25V M R XR
C715	CB+16222MAXRG	BC CON 0.0022MF 16V M A XR
C716	CE+16106MRHAF	ELECT 10MF 16V M R HA F
C718	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C810	CB+25183MRXRF	BC CON 0.018MF 25V M R XR
C811	CB+16822MA+YG	BC CON 0.0082MF 16V M A Y
C812	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C813	CC+50681KAYBG	CERAMIC 680PF 50V K A YB
C814	CB+25153MRXRF	BC CON 0.015MF 25V M R XR
C815	CB+16222MAXRG	BC CON 0.0022MF 16V M A XR
C816	CE+16106MRHAF	ELECT 10MF 16V M R HA F
C818	CE+50105MRHAF	ELECT 1MF 50V M R HA F
R713	RC +6273JT+++	CARBON T 27K OHM J 1/6W
R714	RC +6223JT+++	CARBON T 22K OHM J 1/6W
R715	RC +6822JT+++	CARBON T 8.2K OHM J 1/6W
R717	RC +6822JT+++	CARBON T 8.2K OHM J 1/6W
R718	RC +6562JT+++	CARBON T 5.6K OHM J 1/6W
R719	RC +6272JT+++	CARBON T 2.7K OHM J 1/6W
R720	RC +6562JT+++	CARBON T 5.6K OHM J 1/6W
R721	RC +6102JT+++	CARBON T 1K OHM J 1/6W
R722	RC +6105JT+++	CARBON T 1M OHM J 1/6W
R723	RC +6392JT+++	CARBON T 3.9K OHM J 1/6W
R724	RC +6102JT+++	CARBON T 1K OHM J 1/6W
R813	RC +6273JT+++	CARBON T 27K OHM J 1/6W
R814	RC +6223JT+++	CARBON T 22K OHM J 1/6W
R815	RC +6822JT+++	CARBON T 8.2K OHM J 1/6W
R817	RC +6822JT+++	CARBON T 8.2K OHM J 1/6W
R818	RC +6562JT+++	CARBON T 5.6K OHM J 1/6W
R819	RC +6272JT+++	CARBON T 2.7K OHM J 1/6W
R820	RC +6562JT+++	CARBON T 5.6K OHM J 1/6W
R821	RC +6102JT+++	CARBON T 1K OHM J 1/6W
R822	RC +6105JT+++	CARBON T 1M OHM J 1/6W
R823	RC +6392JT+++	CARBON T 3.9K OHM J 1/6W
R824	RC +6102JT+++	CARBON T 1K OHM J 1/6W

BATTERY TERMINAL P.C.B ASSY

Ref. No.	Part No.	Description
66	141-4-280T-99600	P.C BOARD ASSY, BATTERY TERMINAL
	4-240T-83572	SOCKET, 2P
	141-2-336T-28300	TERMINAL BATTERY

POWER SOURCE P.C.B ASSY

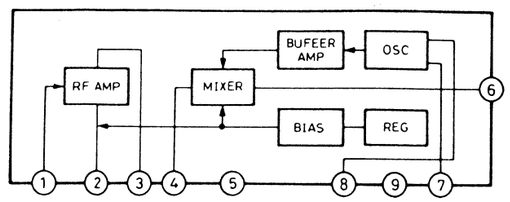
Ref. No.	Part No.	Description
67	141-4-280T-99773	P.C BOARD ASSY, POWER SOURCE
	4-237T-00100	TERMINAL BOARD (3 USED)
	4-240T-83572	SOCKET, 2P
	4-267T-13800	SOCKET, 2P, POWER
	141-2-381T-04202	BRACKET FUSE
	141-2-382T-18900	TERMINAL (2 USED)
T901	⚠ 4-320T-02900	POWER TRANSFORMER
S781	⚠ 4-238T-51100	SWITCH, VOLTAGE SELECTOR
S791	4-238T-37300	SWITCH, AC/DC SELECT
or	4-238T-98400	SWITCH, AC/DC SELECT
D905	⚠ SDDS135+D++++	DIODE DS135 D

PARTS LIST

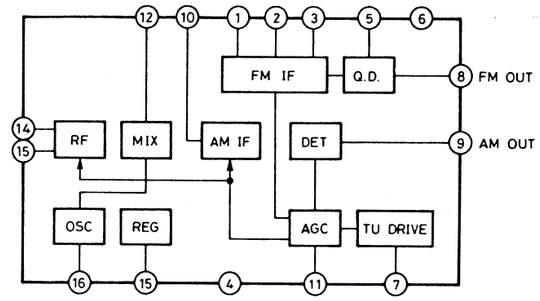
Ref. No.	Part No.	Description
D906	⚠ SDDS135+D++++	DIODE DS135 D
D907	⚠ SDDS135+D++++	DIODE DS135 D
D908	⚠ SDDS135+D++++	DIODE DS135 D
C914	CC+50223ZDZFS	CERAMIC 0.022MF 50V Z D ZF
C915	CC+50223ZDZFS	CERAMIC 0.022MF 50V Z D ZF
C916	CC+50223ZDZFS	CERAMIC 0.022MF 50V Z D ZF
C917	CC+50223ZDZFS	CERAMIC 0.022MF 50V Z D ZF

IC BLOCK DIAGRAM

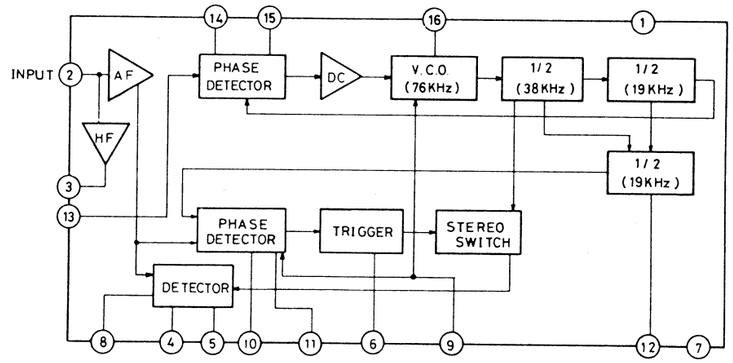
IC101 TA7358 FM FRONT END



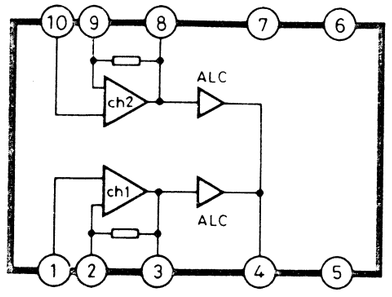
IC301 LA1260S FM/AM IF & DETECTOR



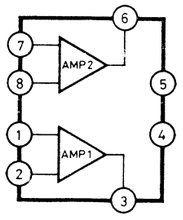
IC501 BA1332 FM MPX



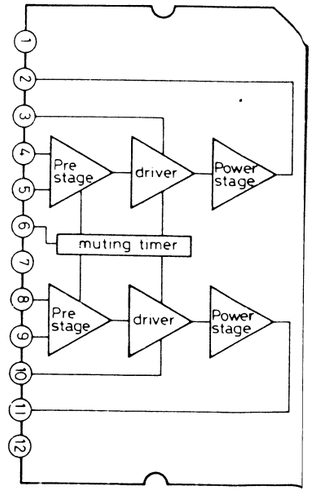
IC901 M51164L PRE-AMP.



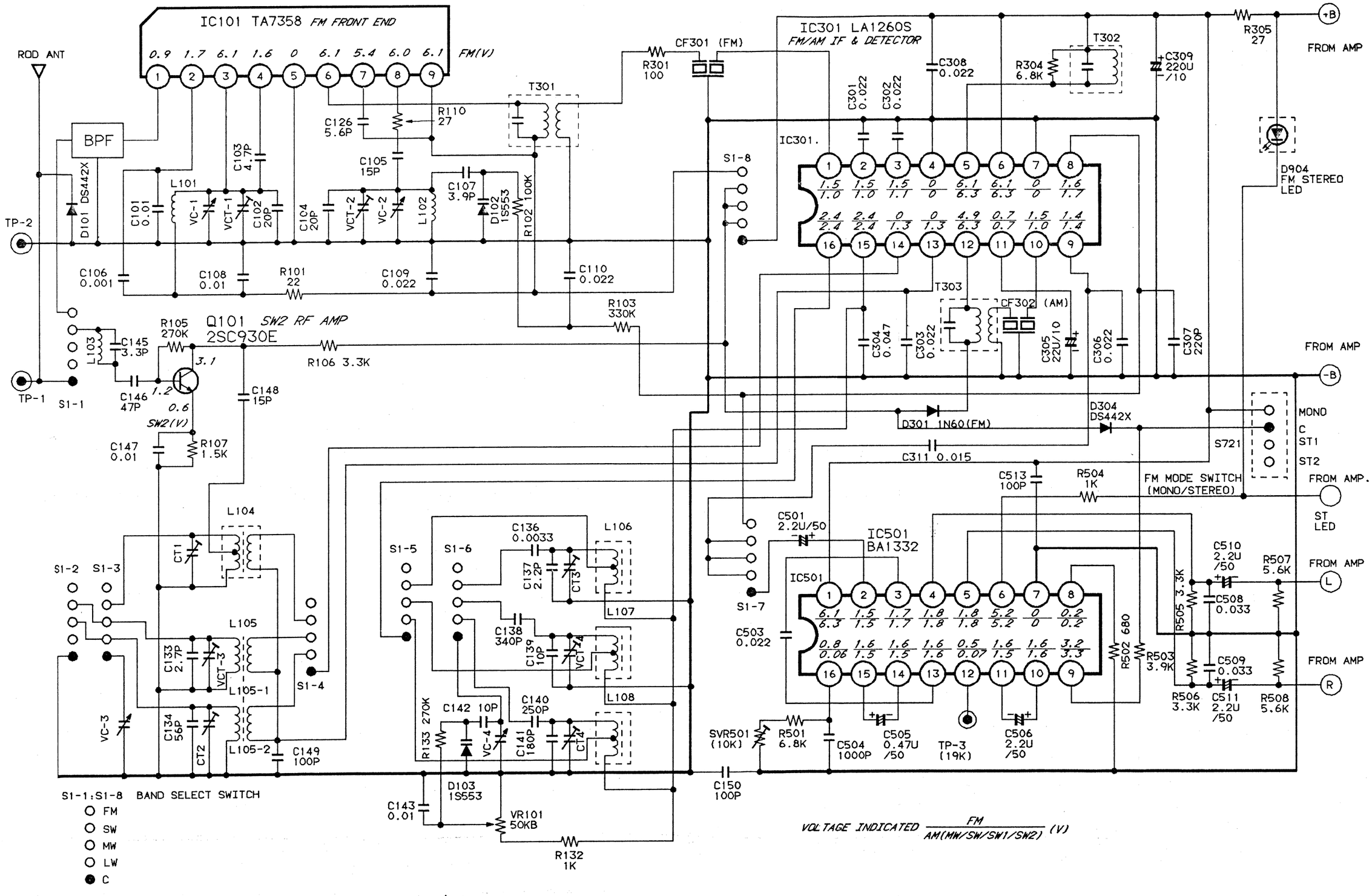
IC902 LA3160 PRE-AMP.

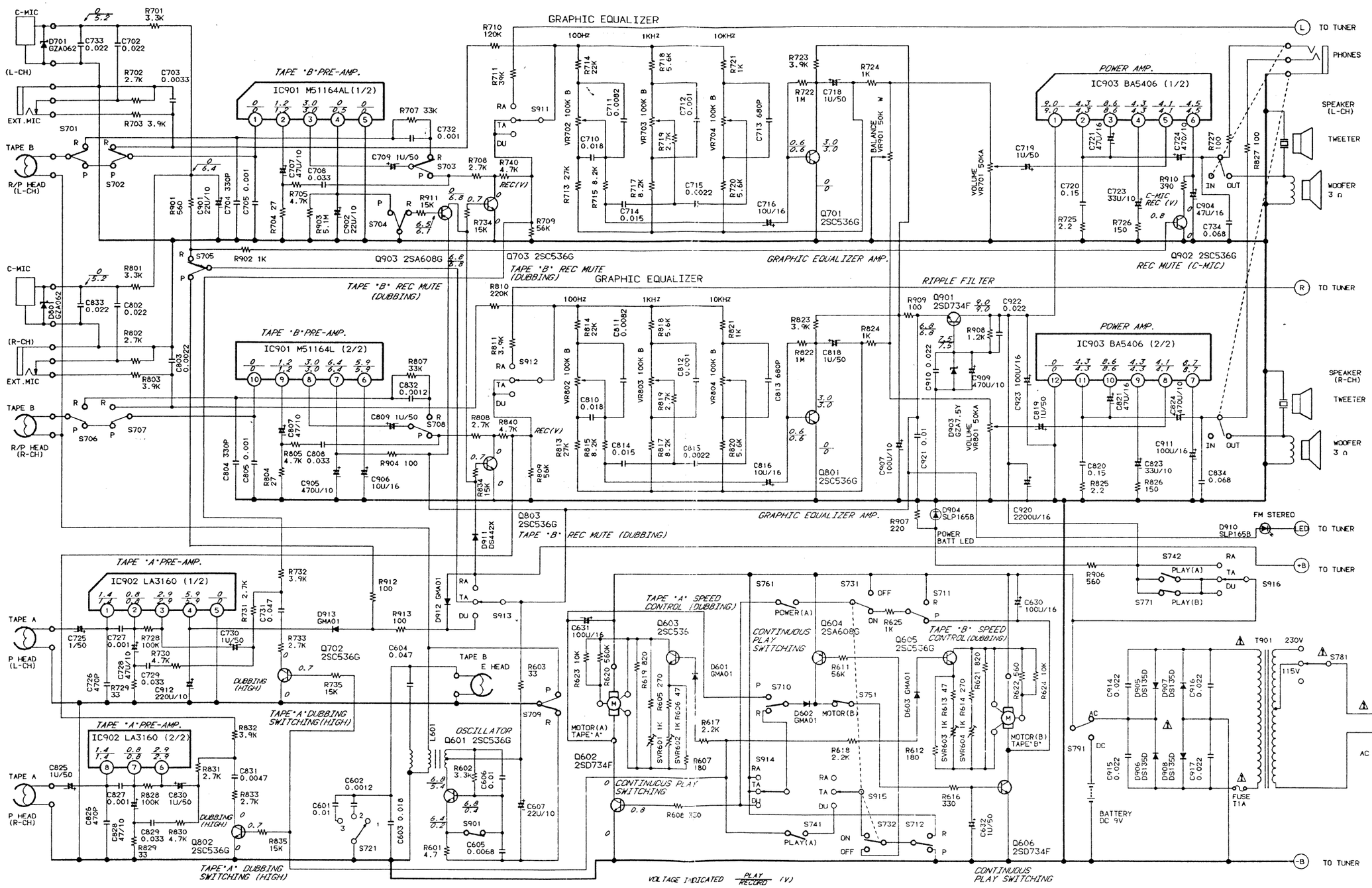


IC903 BA5406 POWER AMP.



SCHEMATIC DIAGRAM (TUNER)





SWITCHES
- S701--S712.....RECORD/PLAY CHANGE SWITCH (RECORD/PLAY)
- S721 .....FM MODE & BEAT CANCEL SWITCH (MONO/STEREO & 1/2/3)
- S731.732.....DUBBING SPEED CHANGE SWITCH & CONTINUOUS PLAY SWITCH (HIGH/NORMAL & ON/OFF)
- S791.....AC/DC SELECT SWITCH (AC/DC)
- S781.....VOLTAGE SELECT SWITCH (120/210/240V)
- S911--916.....FUNCTION SWITCH (RADIO/TAPE/SYNCHRO DUBBING)

MECHANISM 'A' SWITCHES
- S741.....PLAY SWITCH
- S742.....PLAY SWITCH
- S761.....MOTOR SWITCH

MECHANISM 'B' SWITCHES
- S751.....MOTOR SWITCH
- S771.....PLAY SWITCH

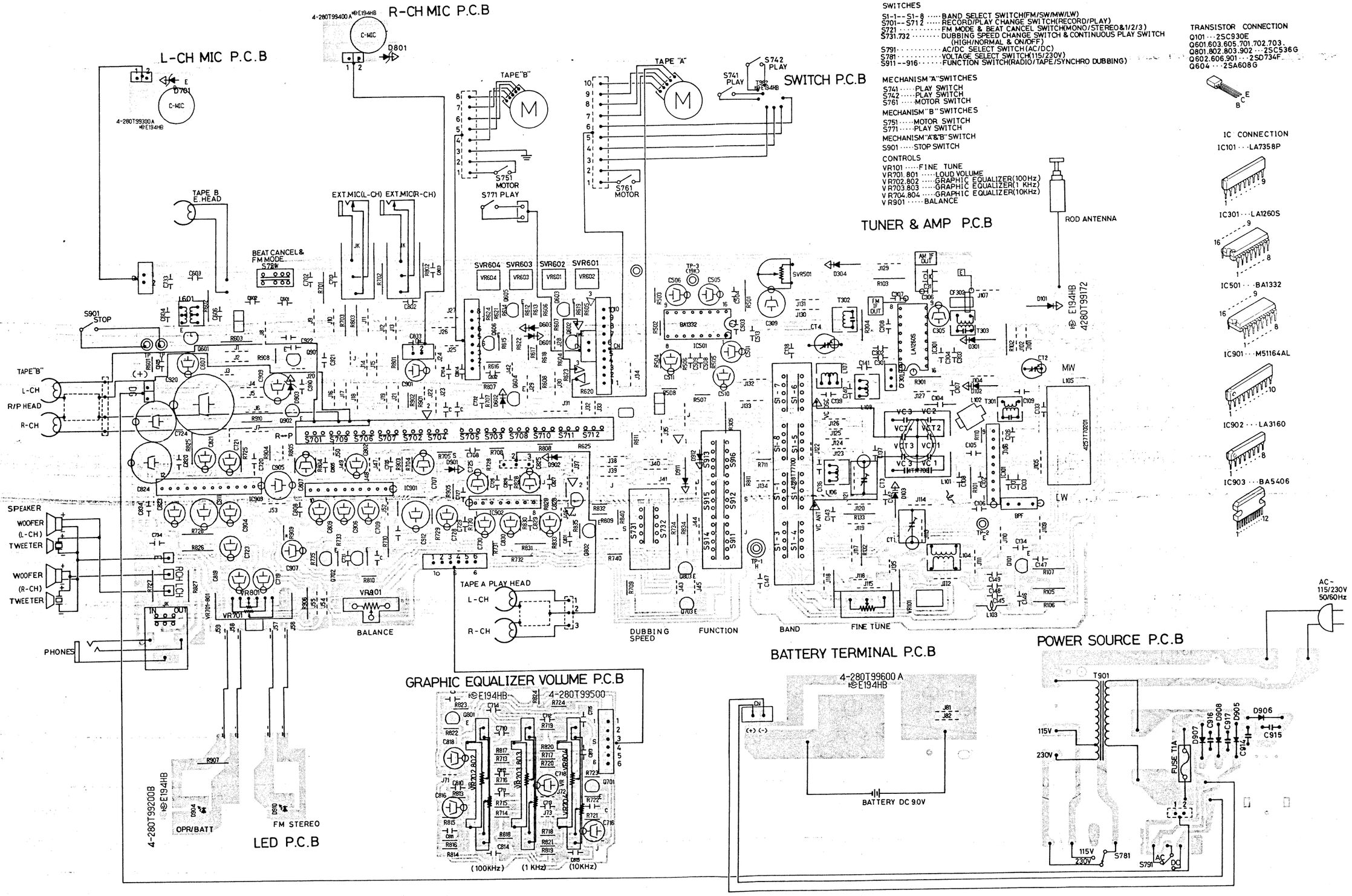
MECHANISM 'A' & 'B' SWITCH
- S901.....STOP SWITCH

CONTROLS
- VR701.801.....VOLUME
- VR702.802.....GRAPHIC EQUALIZER(100HZ)
- VR703.803.....GRAPHIC EQUALIZER(1KHZ)
- VR704.804.....GRAPHIC EQUALIZER(10KHZ)
- VR901.....BALANCE

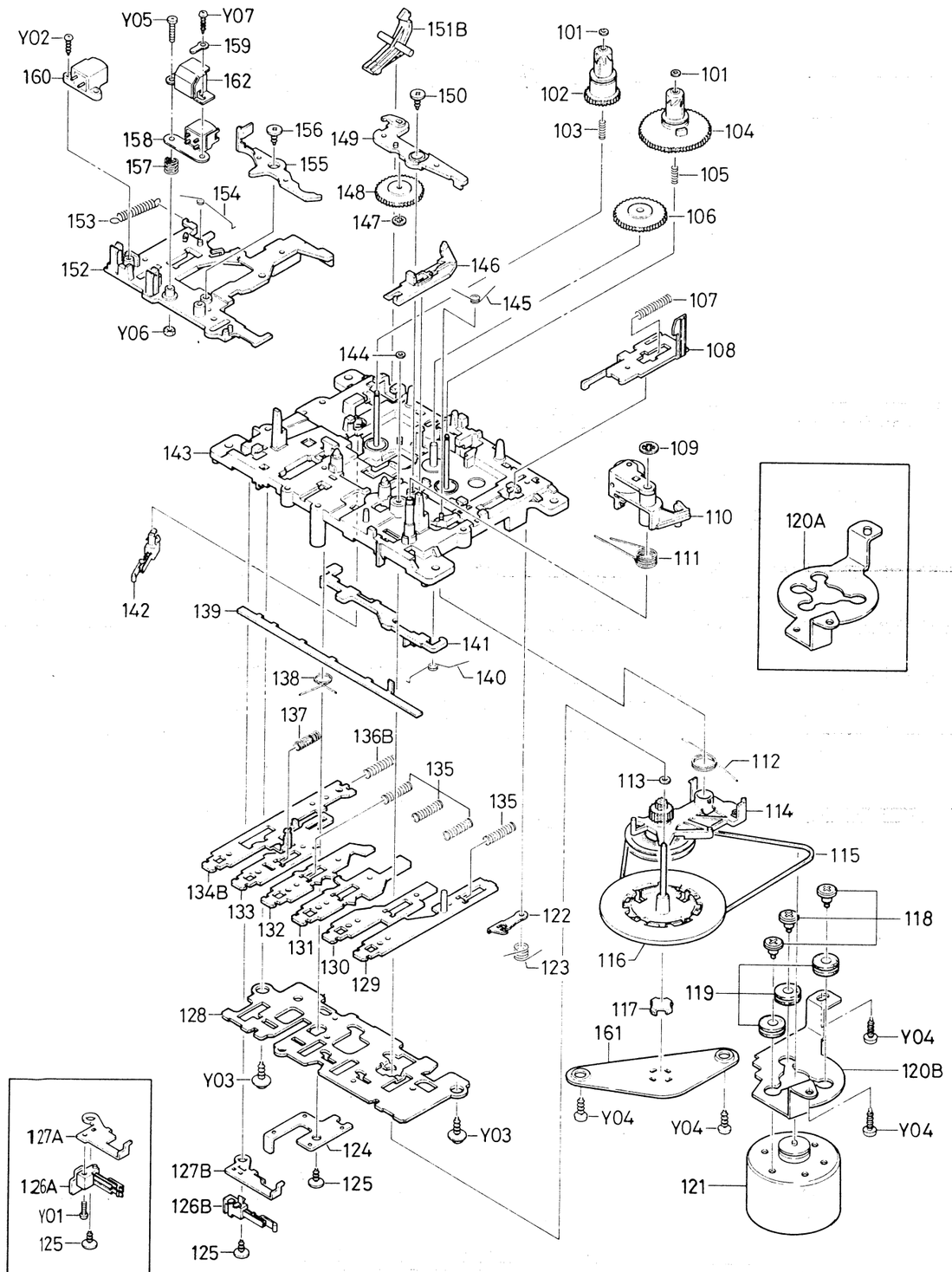
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.

Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.


R-CH MIC P.C.B
4-280T99400 A
C-MIC
D801
L-CH MIC P.C.B
D701
4-280T99300 A
SWITCH P.C.B
TAPE "B"
TAPE "A"
S751 MOTOR
S771 PLAY
S761 MOTOR
S741 PLAY
S742 PLAY
TAPE B E. HEAD
EXT.MIC(L-CH) EXT.MIC(R-CH)
BEAT CANCEL & FM MODE S729
SVR604 SVR603 SVR602 SVR601
S901 STOP
TAPE "B" L-CH R/P HEAD R-CH
R↔P
S701 S709 S706 S707 S702 S704 S705 S703 S708 S710 S711 S712
SPEAKER
WOOFER (L-CH) TWEETER
WOOFER (R-CH) TWEETER
PHONES
VR801
BALANCE
TAPE A PLAY HEAD
L-CH
R-CH
DUBBING SPEED
FUNCTION
BAND
FINE TUNE
TUNER & AMP P.C.B
ROD ANTENNA
D101
E194HB 4280T99172
MW
LW
BPF
SWITCHES
S1-1--S1-8 ·····BAND SELECT SWITCH(FM/SW/MW/LW)
S701--S712 ·····RECORD/PLAY CHANGE SWITCH(RECORD/PLAY)
S721 ·····FM MODE & BEAT CANCEL SWITCH(MONO/STEREO&1/2/3)
S731.732 ·····DUBBING SPEED CHANGE SWITCH & CONTINUOUS PLAY SWITCH (HIGH/NORMAL & ON/OFF)
S791 ·····AC/DC SELECT SWITCH(AC/DC)
S781 ·····VOLTAGE SELECT SWITCH(115/230V)
S911--916 ·····FUNCTION SWITCH(RADIO/TAPE/SYNCHRO DUBBING)
MECHANISM "A" SWITCHES
S741 ····· PLAY SWITCH
S742 ····· PLAY SWITCH
S761 ····· MOTOR SWITCH
MECHANISM "B" SWITCHES
S751 ····· MOTOR SWITCH
S771 ····· PLAY SWITCH
MECHANISM "A"&"B" SWITCH
S901 ····· STOP SWITCH
CONTROLS
VR101 ····· FINE TUNE
VR701.801 ····· LOUD VOLUME
VR702.802 ····· GRAPHIC EQUALIZER(100Hz)
VR703.803 ····· GRAPHIC EQUALIZER(1 KHz)
VR704.804 ····· GRAPHIC EQUALIZER(10KHz)
VR901 ····· BALANCE
TRANSISTOR CONNECTION
Q101 ··· 2SC930E
Q601.603.605.701.702.703.
Q801.802.803.902 ··· 2SC536G
Q602.606.901 ··· 2SD734F
Q604 ··· 2SA608G
IC CONNECTION
IC101 ··· LA7358P
IC301 ··· LA1260S
IC501 ··· BA1332
IC901 ··· M51164AL
IC902 ··· LA3160
IC903 ··· BA5406
GRAPHIC EQUALIZER VOLUME P.C.B
4-280T99500
(100KHz) (1 KHz) (10KHz)
LED P.C.B
4-280T99200B
OPR/BATT
FM STEREO
BATTERY TERMINAL P.C.B
4-280T99600 A
BATTERY DC 9.0V
POWER SOURCE P.C.B
AC-115/230V 50/60Hz
T901
115V
230V
FUSE T1A
S781
S791
AC
DC

EXPLODED VIEW (MECHANISM)



PARTS LIST

In this Parts List, since two similar mechanisms are incorporated in the main body, the parts for the both are entered in the same list.

Mechanism \ Part division	Exclusive parts for TAPE A or TAPE B	Common parts for TAPE A and TAPE B
Left side mechanism TAPE A (playback)	"A" attached to end of key number (e.g. 114A, 115A)	Only key number is given.
Right side mechanism TAPE B (record/playback)	"B" attached to end of key number (e.g. 114B, 115B)	

MECHANISM

Ref. No.	Part No.	Description
101	141-2-453T-30001	WASHER, 1.7X3.2X0.25MM (4 USED)
102	141-2-531T-14900	REEL PLATE, SUPPLY (2 USED)
103	141-2-856T-59500	SPRING COIL, SUPPLY REEL PLATE (2 USED)
104	141-0-531T-14800	REEL PLATE ASSY, TAKE-UP (2 USED)
105	141-2-856T-17200	SPRING COIL, TAKE-UP (2 USED)
106	141-2-581T-29500	GEAR, PLAY (2 USED)
107	141-2-856T-15100	SPRING COIL, EJECT SLIDE (2 USED)
108	141-2-732T-10400	SLIDE, EJECT (2 USED)
109	141-2-457T-20100	SPECIAL WASHER, PINCH ROLLER (2 USED)
110	141-0-545T-08432	LEVER PINCH ROLLER ASSY (2 USED)
111	141-2-852T-82402	SPRING WIRE, PINCH ROLLER (2 USED)
112	141-2-852T-82301	SPRING WIRE, REW/F.FWD LEVER (2 USED)
113	141-2-453T-30102	WASHER, 2.1X4X0.5MM (2 USED)
114A	141-0-742T-97100	LEVER ASSY, REW/F.FWD
114B	141-0-742T-97120	LEVER ASSY, REW/F.FWD
115A	141-2-564T-39100	SQUARE BELT, MAIN
115B	141-2-564T-39000	SQUARE BELT, MAIN
116	141-0-521T-14600	FLYWHEELE ASSY (2 USED)
117	141-2-573T-15200	BEARING, FLYWHEEL (2 USED)
118	141-2-421T-41200	SPECIAL SCREW, MOTOR (4 USED)
119	141-2-445T-29100	RUBBER CUSHION, MOTOR (4 USED)
120A	141-2-378T-16700	BRACKET MOTOR
120B	141-2-378T-13400	BRACKET MOTOR
121	4-527T-28911	COMMUTATE MOTOR ASSY (2 USED)
122	141-2-742T-35601	LEVER, PAUSE CAM (2 USED)
123	141-2-852T-82500	SPRING WIRE, PAUSE CAM LEVER (2 USED)
124	141-2-310T-89400	BRACKET, PLAY MUTE (2 USED)
125	141-2-421T-41000	SPECIAL SCREW, SWITCH MTG. (3 USED)
126A	4-238T-99371	SWITCH, PLAY. S741, 742 (2 USED)
126B	4-238T-63600	SWITCH, PLAY, S771
127A	141-2-365T-60800	BRACKET SWITCH, PLAY
127B	141-2-365T-57900	BRACKET SWITCH, PLAY
128	141-2-737T-09800	BRACKET SLIDE, BUTTON SLIDE (2 USED)
129	141-0-732T-11100	SLIDE ASSY, PAUSE (2 USED)
130	141-2-732T-11000	SLIDE, STOP (2 USED)
131	141-2-732T-10900	SLIDE, F.FWD (2 USED)
132	141-2-732T-10800	SLIDE, REW (2 USED)
133	141-2-732T-10700	SLIDE, PLAY (2 USED)
134B	141-2-732T-16800	SLIDE, RECORD
135	141-2-856T-14700	SPRING COIL, BUTTON SLIDE (8 USED)
136B	141-2-856T-14700	SPRING COIL
137	141-2-856T-15000	SPRING COIL, PLAY BUTTON SLIDE (2 USED)
138	141-2-852T-82600	SPRING WIRE, LOCK SLIDE (2 USED)
139	141-2-732T-16900	SLIDE (2 USED)
140	141-2-852T-82700	SPRING WIRE, SWITCH ON SLIDE (2 USED)
141	141-2-732T-10500	SLIDE, SWITCH ON (2 USED)
142	4-238T-63700	SWITCH, MOTOR, S751, 761 (2 USED)
143	141-0-311T-44000	CHASSIS ASSY (2 USED)
144	141-2-453T-29901	WASHER, 1.8X3.2X0.25MM, FLYWHEEL (2 USED)
145	141-2-852T-82000	SPRING WIRE, AUTO STOP LEVER (2 USED)
146	141-2-742T-97430	LEVER, AUTO STOP (2 USED)
147	141-2-457T-20000	SPECIAL WASHER, F.FWD GEAR (2 USED)
148	141-2-581T-29500	GEAR, F.FWD (2 USED)
149	141-2-742T-97230	LEVER (2 USED)
150	141-2-421T-41000	SPECIAL SCREW, LEVER MTG. (2 USED)
151B	141-2-742T-97500	LEVER, SAFETY RECORDING
152	141-2-732T-10302	SLIDE, HEAD (2 USED)
153	141-2-856T-14901	SPRING COIL, HEAD SLIDE (2 USED)
154	141-2-852T-82101	SPRING WIRE (2 USED)
155	141-2-742T-97630	LEVER, SHUT-OFF (2 USED)
156	141-2-421T-41000	SPECIAL SCREW, LEVER SHUT-OFF (2 USED)
157	141-2-856T-15200	SPRING COIL, HEAD AZIMUTH (2 USED)
158A	4-242T-25371	MAGNETIC HEAD, PLAY
158B	4-242T-25371	MAGNETIC HEAD, RECORD/PLAY
159	141-2-472T-00200	LUG, GROUND (2 USED)
160A	4-242T-35300	MAGNETIC HEAD, DUMMY
160B	4-242T-33600	MAGNETIC HEAD, ERASING
161	141-2-524T-10700	BRACKET FLYWHEEL, (2 USED)
162	141-2-322T-78102	SHIELD PLATE, PLAY & RECORD/PLAY HEAD (2 USED)

FIXING PARTS (MECHANISM)

Ref. No.	Part No.	Description
Y1	BJNBS--2+6+Z1	PAN HEAD SCREW, 2X6MM
Y2	BJN2S++2+8+Z1	PAN HEAD TAPPING SCREW, 2X8MM (4 USED)
Y3	BJX6S++3+8+Z1	PAN TAPPING WASHER HEAD, 3X8MM (4 USED)
Y4	BJB2S++3+8+Z1	BINDING HEAD TAPPING SCREW, 3X8MM (8 USED)
Y5	BJS+S++211+Z1	FLAT HEAD SCREW, 2X11MM (2 USED)
Y6	NJR3S++2+++Z1	HEXAGON NUT, 2MM (2 USED)
Y7	BJN2S++210+Z1	PAN HEAD TAPPING SCREW, 2X10MM (2 USED)

SANYO ELECTRIC TRADING CO., LTD.
33, Hiyoshi-cho 2-chome, Moriguchish i,
Osaka-fu 570, Japan
Aug./'85/2200 NS Printed in Japan